

Title (en)
Coolant plate assembly for a fuel cell stack

Title (de)
Kühlplattenzusammenbau für einen Brennstoffzellenstapel

Title (fr)
Assemblage de plaque de refroidissement pour une pile de cellules à combustible

Publication
EP 0683536 B1 20000119 (EN)

Application
EP 95201280 A 19950516

Priority
US 24658194 A 19940520

Abstract (en)
[origin: EP0683536A1] The coolant plate component (16) of a fuel cell assembly is formed from a plate (20) made from graphite particles that are bonded together by a fluorocarbon polymer binder and which encapsulate a serpentine coolant circulation tube (18). The coolant plate component is non-porous. The graphite particles are preferably flakes which pack together very tightly, and require only a minor amount of the polymer binder to form a solid plate. The plate will provide enhanced heat transfer, will conduct electrons, and will block electrolyte migration from cell to cell in a fuel cell stack (2) due to its construction. The composition of the plate is graded so as to provide a varied coefficient of thermal expansion as measured through the thickness of the plate so as to reduce thermal stresses imposed on the fuel cell stack. The coolant circulation tube (18) has a roughened outer surface (22) which enhances adhesion of the encapsulating graphite flake/binder mixture without inhibiting heat transfer. <IMAGE>

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H01M 8/02; F28F 21/02

IPC 8 full level
F28F 21/02 (2006.01); **H01M 8/02** (2006.01)

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Cited by
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